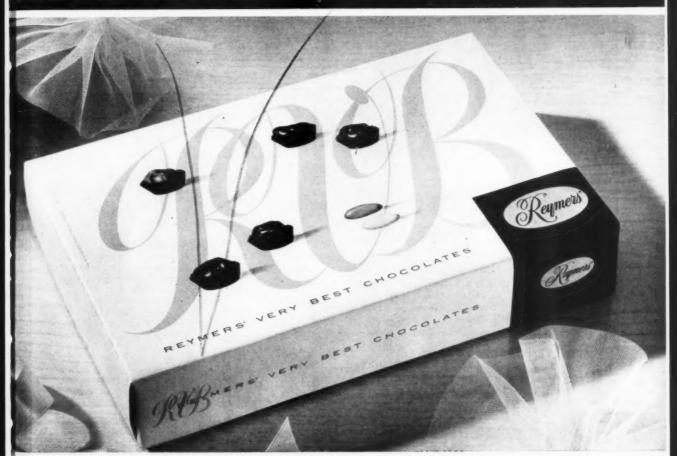


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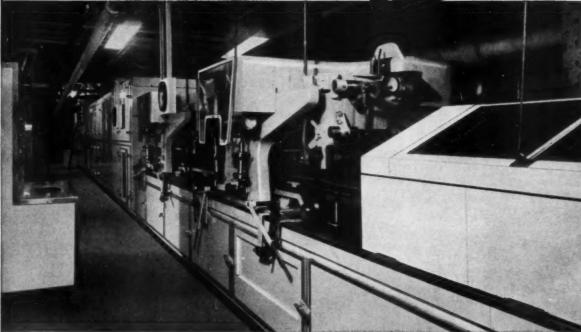
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FEBRUARY 1955

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Vol. XXXV

No. 2

February

1955



Edited and Published in Chicago The Candy Manufacturing Center of the World



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COVER: This elegant box is one of a new line of redesigned packages for Reymer Bros. of Pittsburgh.

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A Textbook on Candy Making

by Alfred E. Leighton

Here is a textbook where the reader can learn the basic fundamentals of candy making, the "how" and "why" of the various operations in non-technical terms. Particular attention is given to the function of raw materials, and why each is included in a formula.

Profits Through Cost Control for Manufacturing Confectioners

by Frank Buese and Eric Weissenburger

This booklet deals with the problems of cost control in candy plants, including planning for profit, controlling material costs, labor costs, distribution costs and overhead costs. The emphasis is on planning operations so that a profit will be made, and in detecting those factors which will adversely affect profit before they can seriously cut the planned profit.

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School Promotion

An ad in the "Australasian Women's Weekly" by Cadbury-Fry-Pascall Ltd. produces over 20,000 letters in two weeks requesting further material.

The advertisement consisted of a 4-color "School Project Sheet" consisting of a profusely illustrated description of chocolate manufacturing from the cocoa bean to the finished chocolate bar. This advertisement offered free a set of project notes which described the process of chocolate manufacturing in greater detail, and suggested several research projects for school work. The project notes were written by the project officer of the Education Department of Tasmania, who also collaborated on the preparation of the project sheet. The actual work was by the Schools Department of Cadbury.

The 20,000 letters of request

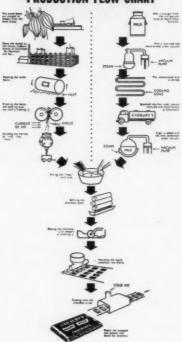
resulted in the mailing of over 60,000 pieces of project material to all parts of Australia. Although most of this material went to individuals, a great number went in bulk to schools for use in classes which were working on school projects.

A Production Flow Chart (illustrated above) also accompanied the project notes and helped the children to visualize the process of chocolate manufacturing.

This school project material received excellent publicity through the press and radio, and the reactions of parents and school officials was entirely to the good.

This distribution of over 60,000 school projects in a country of some 6,000,000 population is no small promotional achievement in itself.

CADBURY'S Dairy Milk Chocolate PRODUCTION FLOW CHART



An Opinion

by Robert Watson, Sears, Roebuck & Co. From a talk before the Boston and Philadelphia Sections of the American Assn. of Candy Technologists

As AN introduction to our discussion of quality standards, I will submit to you an opinion regarding the candy industry. You may agree or disagree with this opinion, but I will present it for your consideration.

In the past fifty years the candy industry has developed great improvements in production facilities, and has been highly successful in achieving a high rate of production per man hour. Raw material purity, sanitation, and quality control procedures have also shown tremendous improvement. Reduction in production cost have made possible greatly increased mass distribution. This has followed a pattern which has been familiar in practically all American industries during the past half century. The candy industry can be proud of the progress which has been made.

It seems to me that one blind

spot in the eyes of the collective candy industry, has been proper consideration for a most important point—consumer satisfaction which, in the case of candy, means complete taste satisfaction.

If we look at other industries, we see great progress in developing products which more fully satisfy the consumer. Countless examples can be found in appliances, clothing, housewares and furniture, but for our example, let us consider automobiles. Think of the Ford automobile of twenty-five years ago, as compared with that of today. Appearance and performance have been vastly improved. Can we think of any candy item which has shown a parallel improvement from our consumer's viewpoint-complete taste satisfaction. I am afraid that we can think of many items where we now have less taste satisfaction-high ingredient costs and high labor costs are usually blamed for this situation.

ur

Obviously, there are exceptions to this rule in the candy industry, and generally speaking these exceptions have been unusually successful. However, when we think of the industry as a whole, it is difficult to suggest the item which has been materially improved in taste satisfaction during the last twenty-five years.

When we look at other industries, we see that the American consumer has become increasingly selective in his quality choices. In the automobile industry the greatly improved Ford is not enough. Mercury and Lincoln quality ranges are available, and a surprisingly large percentage of customers select cars at these levels. At one time Sears Roebuck's sale of men's shirts were mostly work shirts at

Coatings made with Durkee's Paramount out-perform on all counts!

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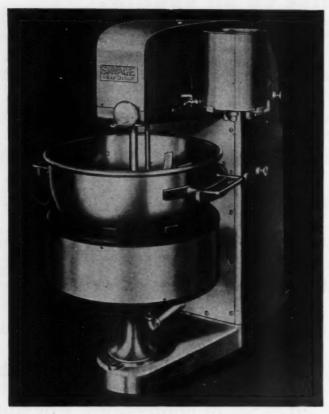
for February, 1955

Page 7

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\$1.00 or less. Today our heavy demand has shifted to dress shirts of greatly improved quality at price ranges from three to five dollars. The average consumer has been educated to better qualities in most merchandise lines, and higher income rates have made this transition possible.

The candy industry is striving to obtain a larger share of the consumer's "belly," but I am afraid that we have lost sight of how selective he has become. The manufacturer-retailer has recognized this demand, but our laboratory has analyzed some of their products, and has found a definite reduction of quality within the past five years. Again high material costs are to blame.

Research and product development are common practice in many industries, and have paid off in greater consumer satisfaction and consequent increases in sales. We are certain that a similar approach within our industry will return excellent dividends, despite the problems of high material and labor costs.

It is our opinion that the first step should be the establishment of minimum quality standards. We have shopped a few candy items which are displayed here tonight. Neither the manufacturers' nor distributors' names are indicated We would like you to impartially examine and taste some of these items after our meeting. Do you think that the consumption of this type of merchandise will increase the consumer's craving for candy? We believe that it will have the opposite effect, and hurt the sale of other candy which is wholesome and delicious, but may look the same.

The development of minimum standards would not be particularly difficult. The problem of enforcement might be impossible of solution because of the great number and variety of candy manufacturers, and the emphasis on low cost which is constantly exercised by both the manufacturers and distributors. On the other hand, aggressive and intelligent leadership on the part of the larger manufacturers might produce surprisingly good results.

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PMCA Production Conference

Program for the two-day meeting at Franklin and Marshall College, Lancaster, Pennsylvania

Thursday, April 28th:

Moderator: Charles S. Grube, Wilbur-Suchard Chocolate Co., Inc., Lititz, Pa., Chairman, Executive Committee, P.M.

A.M.

8:30-Registration.

9:00—Invocation: C. R. Kroekel, President, Kroekel-Oetinger, Inc., Philadelphia; Chairman, Research Committee, P.M.C.

9:05—Greeting: Otto J. Glaser, President, Dairy Maid Confectionery Co., Inc., Philadelphia; President, P.M.C.A.

9:10-Report on P.M.C.A. Research Activities: C. R. Kroekel.

9:25-Cocoon Plastics and Their Use in Plant Maintenance: R. R. Tisdall, Manager of Plastics, Technical Service and Development, R. M. Hollingshead Corporation, Camden, N. J.

9:55-Trends in Certified Colors: Dr. Samuel Zuckerman, Technical Director, H. Kohnstamm & Co., Inc., N. Y.

10:20-Enzyme Converted Corn Syrup Symposium Advantages of High Conversion Corn Syrup to the Candy Manufacturer: F. Hanly Brock, Foods Chemist, Technical Service, A. E. Staley, Manufacturing Company, Decatur, Illinois-Moderator,

Physical and Chemical Characteristics of Enzyme Converted Syrups: John A. Kooreman, Manager Sales Service, Food Division Penick & Ford, Ltd., Inc., Cedar Rapids, Iowa. Limitations Found by Actual Experience in the Use of High Conversion Corn Syrup in the Candy Industry: John M. Krno, Vice President, Corn Products Sales Co., New York.

11:10-Recess.

11:35—Flexible Packaging in the Candy Industry: F. W. Spannagel, Sylvania Division, American Viscose Corp., Philadelphia.

P.M.

Flavor Pattern and Flavor Profile: L. C. Cartwright, Account Executive, Foster D. Snell, Inc., New York

12:05-The Kit of Tools for Cost Control: Dr. G. Jay Anyon, Assistant Professor of Industry, Wharton School, University of Pennsylvania; Industrial Consultant, Philadelphia.

1:00-Luncheon (Served on campus)

2:00-A New, Simple System for Making Cream Centers and Fudge Continuously: William I. Gorfinkle, General Manager, J. O. Whitten Co., Inc., Winchester, Mass.
-Rotary Moulding Machine in

Operation: (A moving picture in color Gordon H. Wilcox, President, The Rotary Machine Co., Inc., Philadelphia.

2:55-Extruding Machines: Claude J. Covert, President, Vacuum Candy Machinery Co., New York; W. C. Smith, Jr., W. C. Smith & Sons, Inc., Phila-delphia; A. Donald McCulloch, President, Harry L. Friend Company, South Boston, Mass.

4:05-Discussion.



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Cul-L. Bos5:00-Adjournment.

7:00-The Pennsylvania Manufacturing Confectioners' Association Dinner (Dress Informal) Hotel Brunswick, Lancaster, Pa., Pennsylvania Dutch Dinner.

Hans F. Dresel, Representative, Felton Chemical Co., Philadelphia, Chairman, Annual Production Ninth Conference.

Otto J. Glaser, President, Dairy Maid Confectionery Co., Inc., Philadelphia., President, P.M.C.A., Toastmaster.
-Address: Philip P. Gott, President, National Confectioners' Association, Chicago.

Friday, April 29th:

Moderator: I. Harry Goldenberg, Goldenberg Candy Co., Inc., Philadelphia; First Vice President, P.M.C.A.

A.M.

8:30-Registration.

9:00-Report on National and International Research in the Candy Industry: Dr. S. M. Cantor, Sidney M. Cantor Associates, Consulting Chemists, Ardmore, Pa.

9:30-Chocolate Symposium:

Introduction, Fred W. Greet, J. W. Greer Company, Wilmington, Mass.

Enrobing Chocolate Prepara-tion of Centers, Clifford Clay, Research Director, Stephen F. Whitman & Son, Philadelphia. Enrobing Technicque, Sam Goldstein, Assistant Plant Goldstein, Assistant Plant Superintendent, Loft Candy Corporation, Long Island City,

Cooling Tunnel, A. T. Newth, The Nestle Company, Inc., White Plains, N. Y.

10:45—Recess.

Tempering of Chocolate; Tempering of Confectioners' 11:00-Coating: Norman W. Kempf, Manager of Chocolate Development, Walter Baker Division, General Foods Corporation, Dorchester, Mass.

11:40—Common Errors Made by Candy Makers: James A. Candy Makers: James A. King, The Nulomoline Divi-sion; The American Molasses

Co., New York.

P.M.

12:10-Discussion.

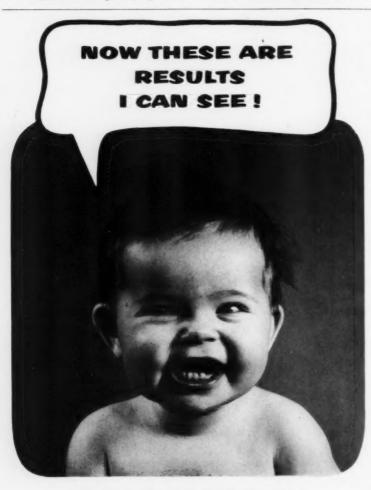
1:00-Luncheon (Served on campus) Round Table Discussion: Directed by James A. King.

5:00-Adjournment.

Beich Bros. of Chicago have added another flavor to their line of caramels. This flavor is Chocolate Malt and is packaged the same as Beich's other caramels, 160 count to retail 2 for 1¢. The new addition brings the total selection to 5 flavors-Banana, Strawberry, Lemon, Peppermint and Chocolate Malt.



Hollywood Brands, Inc. has announced a change in the Hollywood candy bar. The wrapper has been redesigned in blue and silver and its size has been increased to 2 oz. It is still priced to retail at 5¢.



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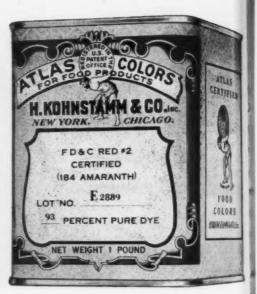
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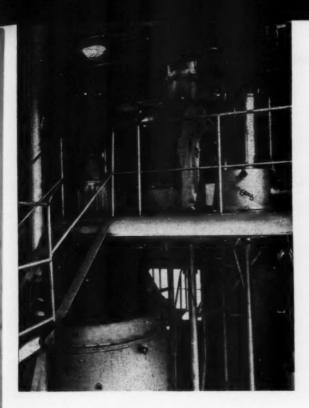
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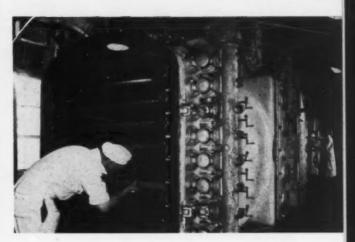
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At the left is a view of section of the Chocolate Crumb factory, showing the vacuum condensing pan, milk heater and, at a lower level, the feed kettle from which the mass is pumped to the Scott Drier. The SCOTT Continuous Band Drier is shown below from the feed end. The operator is fitting one of the eight feed-combs through which the mass is fed to the bands for final drying.



Chocolate Crumb

By M. R. Lodge, M.Sc., Chief Chemist Urney Chocolates Ltd., Tallaght, County Dublin

During the last 14 years or so the manufacture of Milk Chocolate in the factories of most of the leading Chocolate Manufacturers in these islands has undergone an important change. In brief, this change is in the use of Chocolate Crumb—a product which, I think, is not very familiar to manufacturers in the United States. The purpose of this article therefore, is to let the reader know what Chocolate Crumb is, how it is made, and what advantages its use offers over other methods of Milk Chocolate manufacture.

Milk Chocolate Crumb is a compound raw material, or more accurately an intermediate product, in Milk Chocolate manufacture. It is unrefined and unconched Milk Chocolate without added cocoa butter, and consists of an intimate combination of full-cream

milk solids, chocolate liquor and sugar. This definition does not, admittedly, seem very exciting. It must be qualified by details of the method of manufacture and by a technical examination of its properties resulting from this manufacturing method, before the reader will appreciate that it does in fact represent something relatively new in chocolate technology. He will already have concluded that it must represent something different and, in the estimation of the Irish and British public, capable of making a Milk Chocolate more acceptable than that made by older methods.

As is the case with every product which is made in a number of different factories, the details of the manufacture of Chocolate Crumb vary somewhat as between one factory and another. The details given

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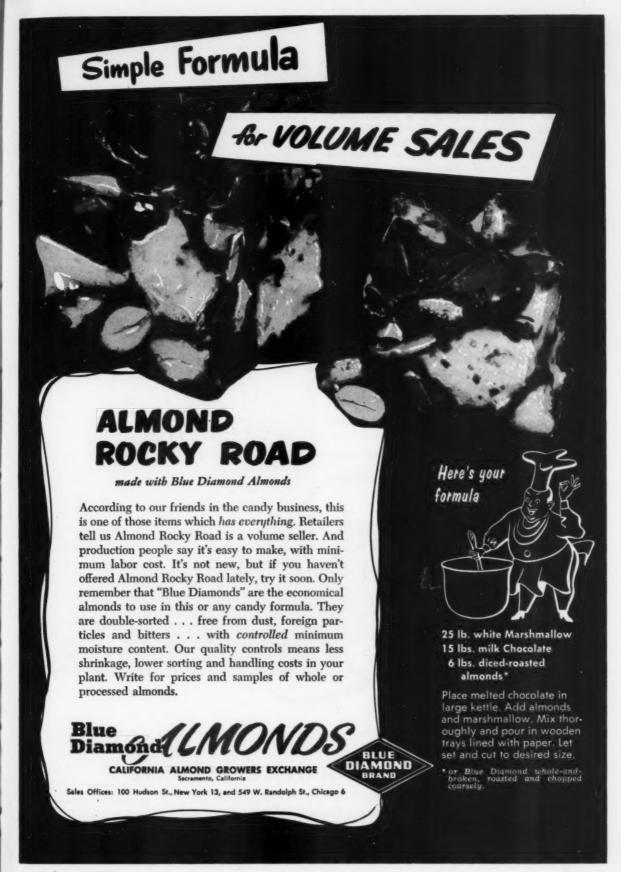
View of the URNEY control laboratory. The instrument panel beneath the clock consists of mercury column vacuum gauges, and dial pressure gauges and thermometers registering vacua, pressures and temperatures in all the units of the Chocolate Crumb plant.

below are those which were obtained in the factory of Urney Chocolates Ltd., who have been manufacturing Chocolate Crumb for over ten years. We feel that during that time we have encountered and surmounted most of the snags and difficulties.

Fresh milk is received by road from the producers. It is inspected at our receiving depot. Organoleptic tests establish that the milk is fresh; milk which is not quite fresh to taste is immediately rejected. Provided it tastes O.K. it is sampled and the sample immediately analysed in our laboratory. If analysis confirms that the milk is in fact unadulterated fullcream fresh milk it is accepted. The milk is then pumped into stainless steel bulking tanks fitted with electric stirrers. From there it passes to a stainless steel pasteuriser. The "pasteurising" is most important because in this case it must not only pasteurise in the generally accepted sense, but it must also destroy lipase present in the milk which might otherwise cause the subsequent development of rancidity. For this reason, milk which may be insufficiently heated when starting up the pasteuriser must be deflected back to the pasteuriser feed point and passed through again. A recording thermograph fitted to the pasteuriser is a useful method of keeping the operator "on his toes." Hot milk leaving the pasteuriser is piped to stainless steel tanks of about 600 gallons capacity and in these the sugar is added (the amount of sugar depends, of course, on the final Crumb composition aimed at). It is not unusual to add the sugar in the form of a syrup, a method which has the obvious faults that water thus added must later be removed, and sugar boiled with water to form a syrup may undergo slight inversion. In the Urnev factory, dry sugar is rapidly dissolved in the hot milk by means of stirrers fitted to the sugaring tanks. The sweetened milk is condensed in two stages—the first being carried out in a stainless steel continuous vacuum pan (callandria type) to about 65% total solids, and the second in a batch type steam jacketted stainless steam pan fitted with a slow rotating stirrer to about 90% total solids. At this stage (the accurate judging of which by the pan operator is of some importance in determining the structure of the finished Crumb) the batch is dropped into jacketted mixing kettles in which it is intimately mixed with the chocolate liquor. Because of the high fat content of the resultant mixture, sucrose and lactose are forced to crystallize in micro-crystals.

Final drying of the mass is carried out in a Scott continuous band vacuum drier. This consists of eight woven metal bands carried in sliding contact over steam heated shelves; the whole being housed in a vacuum chamber. The mass to be dried is force-fed onto the bands at one end of the chamber (which is about 40 feet long) by spreading combs. It is progressively dried under high vacuum as it passes through the chamber. Provision is made for adjustment of the steam pressure in the shelves in stages, to dry the mass at a nice even rate and to avoid having it dry before it reaches the end of the run of heated shelves. This would cause protein denaturing and perhaps sugar caramelisation (a term which I am reluctant to use as it is much abused by writers on Candy and Chocolate manufacture); let us put it in plain English and say it would cause burning! The dry (less the 1% H₂O) Crumb is roughbroken by a built-in breaker and taken out at intervals through a "vacuum lock." This crumb-like product (from which no doubt the name Chocolate Crumb is derived) can be finally hammer-milled to a fairly fine powder, and bagged, preferably in a bag fitted with a moisture proof liner (e.g. polyethylene) as a low moisture product containing milk solids is, as one would expect, somewhat hygroscopic.

The writer is aware, of course, that up to a point, the method of manufacture of Chocolate Crumb overlaps to some extent that in use in some American Chocolate factories which use liquid milk. An excellent article by Mr. J. C. Musser, published in the June '54 issue of The Manufacturing Confectioner, deals in some detail with what he terms "liquid milk processes" for Milk Chocolate Manufacture. The point at which the essential difference crops up between these processes and the manufacture of the intermediate product-Chocolate Crumb-is the final vacuum drying of the latter. Thus, liquid milk processes as dealt with by Mr. Musser envisage the manufacture of Milk Chocolate from A to Z, using liquid milk as a raw material, in a particular factory which is fortunate enough to be located in a milkproducing area. Chocolate Crumb, on the other hand. can be made in Ireland, for example, and used in America; and the factory using it thereby achieves an advantage hitherto enjoyed solely by chocolate factories in milk producing areas. This advantage lies in the fact that milk chocolate made by any



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liquid milk process has a flavour which is superior to milk chocolate made from milk powder. The user of Chocolate Crumb, however, enjoys other advantages:

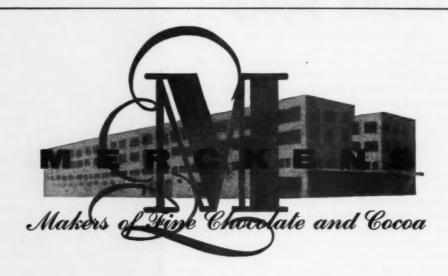
- Provided the Crumb has been made to contain sugar, milk solids and cocoa mass in the same proportions as he requires in his Milk Chocolate (and this can always be arranged) he merely has to refine and conche, using the usual amount of cocoa butter, emulsifier and flavouring; it is obviously an advantage to have three of his raw materials condensed into one—i.e. Chocolate Crumb.
- 2. The sugars in Chocolate Crumb have, as already mentioned, a microcrystalline structure. Crushing a piece of Crumb under the flat end of a pencil will immediately break it down to a max particle size of about 100 microns. A crystal of sugar similarly treated will not disintegrate to anything like the same extent; thus refining of Chocolate Crumb can be expected to cause less wear on Chocolate Refiners than the refining of a mixture containing ordinary sized sugar crystals.
- 3. Vitamins and antioxidants naturally present in the fresh milk used in Crumb, owing to the fact that low temperature vacuum drying is employed throughout, are not destroyed to anything like the same extent as in roller dried milk powder. Thus, a high food value and a more stable fresh flavour are assured.

- 4. The danger of oxidative rancidity developing in the chocolate is minimised by the use of stainless steel throughout the Crumb manufacture. The use of copper or milk steel plant would promote oxidative rancidity. Tinned copper is a risky material as the tin coating wears off in spots with time—thus exposing copper.
- 5. Under similar conditions of storage, Chocolate Crumb will keep longer than milk powder. There are several reasons for this. The relatively stable cocoa butter acts as an enveloping medium for the milk solids (including the readily oxidisable milk fat) thus preventing atmospheric oxidation. The non-fatty cocoa solids present also act as a powerful anti-oxidant. Properly manufactured Chocolate Crumb will in fact keep in excellent condition for at least twelve months.

The writer will be glad to send sample of Milk Chocolate made from (a) Crumb, (b) Spray Dried Milk Powder, and (c) Roller Dried Powder, to those who are interested. Write to M. R. Lodge, Urney Chocolates, Ltd., Tallaght County, Dublin, Ireland. These samples are similar in composition, conching time, conching temperature, etc. But, if one accepts that a fresh milk flavour is desirable in Milk Chocolate, the order of merit of the three samples is:

- 1. Crumb
- 2. Spray Dried
- 3. Roller Dried.

-The end



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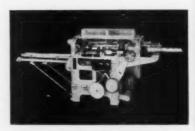




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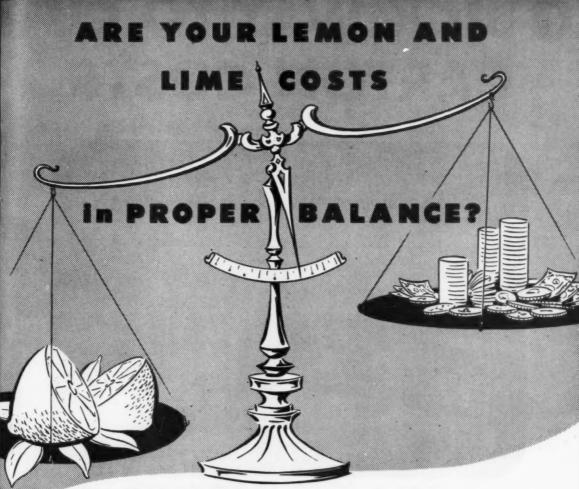












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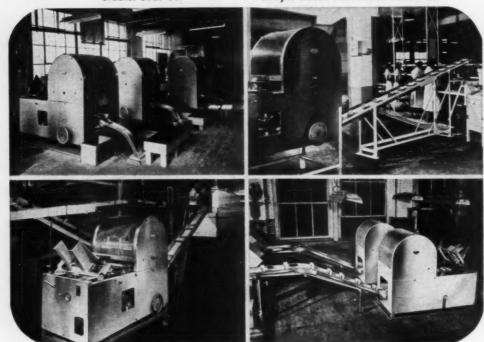
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The Effect of Packaging and Storage Conditions on Chocolate Covered Candies

E. K. HEATON, BARBARA G. COWAN and J. G. WOODROOF Georgia Experiment Station, Experiment, Georgia*



Page 26

THE MANUFACTURING CONFECTIONER

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Figure II. A close-up of chocolate-coated candies after storage showing (1 and 2) sugar bloom, and (3) normal.

T IS highly desirable to handle chocolate candies so that they can be kept in storage several months without change in order to provide an even production and marketing schedule. Two of the major factors which determine the keeping qualities of candies are methods of packaging and storage conditions.

Refrigeration is recognized as an effective means of retaining the eating qualities of chocolate-covered candies and of protecting them from fat bloom (graying). Moisture-vapor-proof, sealed packages are essential to prevent gain or loss of moisture and prevent condensation of moisture upon removal from refrigerated storage.

A series of tests were conducted to determine the influence on the finish of chocolate candies of (a) certain packaging materials used as overwraps and inner liners for boxes, and wraps for individual pieces of candies and candy bars; (b) storage conditions, including temperatures and humidities; and (c) types of candies, including coatings and centers.

Methods

es

In these tests a total of 360 one-pound boxes of chocolate-covered assorted candies from five manufacturers and a total of 1,920 chocolate-covered bars from six

manufacturers were used. All boxes of assorted candies were overwrapped with cellophane when received, had a 1/16-in. cushion and each piece of candy was in a fluted chocolate-colored glassine cup.

The initial overwrapping material was replaced on 54 boxes of the chocolate-covered assorted candies, shown in Table I and Fig. 1, from each manufacturer, leaving nine unwrapped boxes of each as checks, after storage; and nine used for the initial examination. The replacement overwraps consisted of nine wraps each of (a) aluminum foil, 0.00035 gauge; (b) cellophane, 450 MSB 3; (c) cellophane, 300 MSAT 53; (d) polyvinylidene chloride film (saran) 75 gauge; (e) glassine, #500; and (f) polyethylene, 0.001 gauge. All wrapping materials were heat sealed except the glassine and saran, these were sealed with

The six types of candy bars (five chocolate-covered and one solid milk chocolate, shown in Table II) were received in chipboard boxes packed 24 bars per box. All of the bars had individual wrappers of glassine except one type, chocolate-covered mint fon-

dant, which was wrapped in aluminum foil. Six boxes of each type of bar were overwrapped, three with 0.00035-gauge aluminum foil, three with a 20-lb. waxed paper and three boxes of each remained without overwraps, as checks. The wrappers of individual bars from two additional boxes of each type were replaced with each of the materials listed and the bars were then repacked in boxes containing eight bars wrapped in foil, eight in waxed paper and eight in the original manufacturer's wrap. In the case of the mint-fondant bars, originally wrapped in foil, the replacement wraps were waxed paper and polyethylene. No overwrap was used on the boxes containing these bars.

Three boxes of each type of overwrap for each of the assorted candies and one box of each of the various types of wraps and overwraps for the bar candies were placed in storage at (a) zero deg. F., (b) 35 deg. and 50% relative humidity and (c) 70 deg. F., 50% relative humidity. The assorted candies were examined after one, two and six months; and the bars were examined after two and four months. Boxes containing the bars were rewrapped for further

TABLE I—THE NUMBER OF TYPES AND PIECES OF DARK AND LIGHT CHOCOLATE CANDIES PER BOX AND DESCRIPTION OF THE MANUFACTURER'S PACKAGE FOR CHOCOLATE-COVERED ASSORTED CANDIES

NO.		Candy				Package			
Identity	Types	dark	light	Botton dark pieces	light		Inner liner	Padding	
1	24	13	11	8	13	Signature- embossed aluminum foil	Signature- embossed aluminum foil	Single-ply em- bossed tissue lam- inated to glassine	
2	27	26	5	16	7	Aluminum- foil lid, paper on bottom	Signature- embossed glassine	Single thickness of tissue laminated to glassine	
3	26	13	15	13	15	Printed paper	Printed paper	Three thicknesses of embossed tissue laminated to glas- sine	
4	16	9	9	8	7	Aluminum- foil lid, black paper bottom	pad, on	Foil laminated to corrugated board	
5	19	9	8	8	7	Printed paper	Embossed glassine	Six-ply Kemce laminated to glas- sine	

The authors are with the Georgia Experiment Station, Experiment, Ga. This is Georgia Paper No. 272, Journal Series, Georgia Experiment Station.

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[†] Research sponsored by the National Confectioners Assn., Chicago, and the Refrigeration Research Foundation, Colorado Springs, Col.

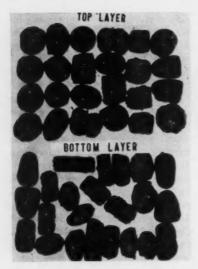


Figure I. The arrangement of pieces of candy, as received, on each the top and bottom layer of a one-pound box with all packaging material removed.

storage after the two months' examination.

At the first examination, the boxes of assorted candies were removed from storage, wrapped in brown paper with a confectioner's fold and held for 24 hrs. at 75 deg. F. and 75% r. h. before opening. As there was no evidence of condensation or dulling of the finish, the boxes were rewrapped as before and returned to the respective storage conditions for 36 hrs., after which they were again removed, held for five hours at 75 deg. and 90% r. h. without brownpaper overwrap and opened for examination. Since evidence of condensation was found only in the boxes with no overwrap, it was concluded that the additional brown paper was unnecessary and it was omitted at all subsequent examinations of both assorted and bar candies. At every examination the surface of each piece of assorted candy and each candy bar was observed under 5x magnification with special lighting to determine relative amounts of (a) moisture condensation or sugar bloom-crystallization of sugars on the surface-resulting from moisture condensation, as shown in Fig. 2; (b) hard-fat bloom-fats which migrated to the surface and solidified, (c) soft-fat bloom-fats remaining liquid at room temperature and producing an oily surface and (d) cracking, observed only after storage at zero deg. F. and apparently due to expansion in freezing.

Flavor evaluations were obtained by a panel of five persons who scored each piece of candy at each examination period.

Results

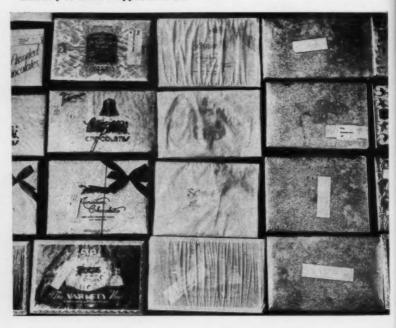
The most significant results of the various tests were that no damage occurred to the candies from condensation when moisture-tight boxes were used. In numerous tests both assorted candies and bars were removed from zero deg. and 35 deg., without step-by-step tempering, to 70 deg. F. at 50 to 90% r. h., where condensation on the outside of the packages was profuse during the warm-up period. Moisture or evidence of moisture damage to the candies was found only in boxes which were opened before they had reached 70 deg. F., or in those constructed of materials which allowed moisture to penetrate from outside.

Moisture-tight packaging was the determining factor in protecting refrigerated candies from moisture damage.

The behavior and efficiency of the various packaging materials

Aluminum foil. Boxes of candy overwrapped with aluminum foil collected more moisture condensation on the outside of the packages than boxes overwrapped with other materials when removed from refrigerated storage. The particles of moisture were at first microscopic, but within a short time they coalesced to form drops of increasingly larger size, as shown in Fig. 4, until some of the condensate ran off the boxes. Since there was no penetration of moisture into the foil, evaporation was rapid and boxes overwrapped with this material were among the first to dry off. This moisture condensation and drying on the surface of the package caused no injury to the boxes, matting, paper liners, individual paper cups or candy. Similar results were obtained when aluminum foil was used to wrap individual bars or pieces of assorted candies.

Figure IV. Condensation of moisture on one-pound boxes of candy removed from 0° to 70° F. and 90 per cent r. h. (Left) Boxes wrapped in saran. Condensation collected in droplets on the overwrap without penetrating to the box of candy. (Center) Boxes wrapped in glassine which absorbed part of the condensation while some of it penetrated the overwrap causing sugar bloom on the candy. (Right) Boxes wrapped in aluminum foil, condensation collected in droplets on surface without penetrating to the box or candy. Boxes wrapped in polyethylene and cellophane behaved similarly to those wrapped in saran.



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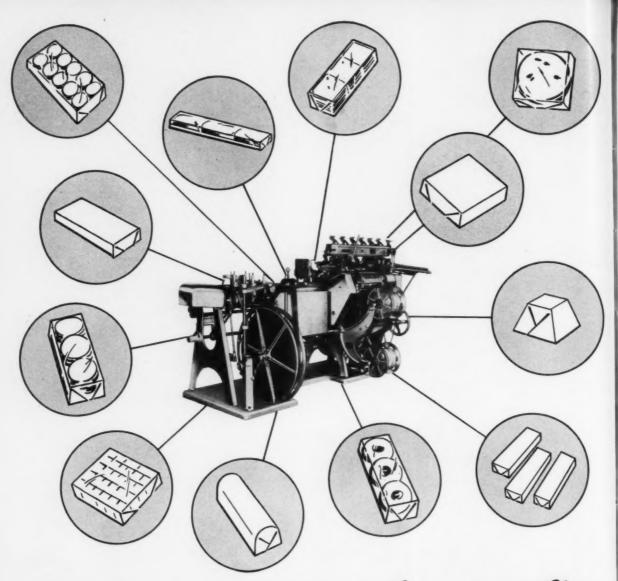




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Cellophane, polyethylene and saran. The behavior of polyethylene and saran was practically the same as that of aluminum foil. Both the medium and heavy grades of cellophane adequately protected boxes and individual pieces of candy, but the cellophane itself showed signs of wrinkling and shrinking as a result of the condensation and subsequent evaporation of moisture.

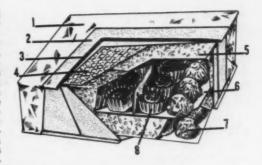
Waxed paper. Waxed paper, used as a box overwrap or wrap for individual candy bars, retarded but did not completely prevent migration of moisture vapor. Hence, the net gain from use of the paper was a decrease in the amount of moisture damage to the boxes and individual bars, but in no instance was it considered an adequate protection against sugar bloom.

Glassine. Boxes overwrapped with #500 glassine absorbed the condensate without the formation of droplets, resulting in severe wrinkling and stretching of both the wrapping material and the outer surfaces of the boxes. The appearance of the boxes was greatly impaired as long as they were damp, but improved on drying. The period required for complete drying was much longer than with foil, polyethylene, saran or cellophanc.

Glassine afforded little or no protection when used as a wrapper for individual pieces of assorted candies; in practically all instances of sugar bloom from condensation it was impossible to differentiate pieces which had been wrapped in glassine from those which had been left unwrapped. The same was true of bars wrapped in single or double layers of glassine, even when one layer was lightly waxed, but a wrapping of glassine covered with a sleeve of heavy printed kraft effectively prevented damage from condensation. In the latter instance, it is probable that the kraft paper sleeve acted as a blotter to absorb moisture which otherwise would have penetrated the glassine and resulted in bloom on the surface of the bar.

No wrap. Boxes with no overwrap absorbed the condensate and

Figure V. The essential features of a package for protection of assorted candies from sugar bloom: (1) Overwrap with sealed edges, which protects box and contents against gain or loss of moisture; (2) Chipboard box, telescope style, with extended edges, protects the candy from mechanical injury during handling; (3) Cushion in lid which tects box and candy from mechanical injury and adds insulation; (4) Padding tissue with high moisture ab-



sorbing properties, protects candy from condensation; (5) Inner liner with both end and side folds, protects candy against moisture change, but is not needed if suitable overwrap is used; (6) Divider which separates layers of candy; (7) Individual wrapper which prevents losses of moisture and flavors from candies; and (8) Candy cup which protects individual pieces of candy from rubbing together.

TABLE III—RELATIVE AMOUNT OF SUGAR BLOOM (WEIGHTED MEAN) ON CHOCOLATE-COVERED ASSORTED CANDLES WHEN THE BOXES WERE OVERWRAPPED WITH DIFFERENT MATERIALS, STORED FOR SIX MONTHS AT 0 AND 35° F., AND CONDITIONED AT 70° F. AND 85% RELATIVE HUMIDITY FOR 5 HRS. BEFORE OPENING

Over-	Storage			Candy id	entity†			
wrapping	tempera-		2		3		5	
materials	ture, deg. F.	Pieces affected, %	Bloom rating*	Pieces affected, %	Bloom rating*	Pieces affected, %	Bloom rating '	
		To	p Layer					
Unwrapped	0	86	4.0	61	2.7	93	7.0	
	35	54	2.0	0	-	93	4.0	
Glassine	0	86	3.0	61	2.6	93	4.0	
	35	66	1.0	0	_	93	1.0	
Aluminum foil								
Cellophane	0	0	-	0	distre	0	-	
Saran	35	0	-	0	-	0	-	
Polyethylene								
		Bot	tom Lay	er				
Unwrapped	0	0	_	0	_	87	2.0	
	35	0	_	0	-	0	_	
Glassine	0	0	_	0	-	13	2.0	
	35	0	_	0	-	0	-	
Aluminum foil								
Cellophane	0	0	-	0	_	0	_	
Saran	35	0	_	0	-	0	-	
Polyethylene								

Based on an intensity of 0 to a maximum of 10.

became damp without the formation of droplets on the surface. Drying was slow, and the interior packaging material, as well as the candy, showed varied degrees of injury from having been moist.

Assorted candies

Manufacturers' packages for chocolate-covered assorted candies protected the product from sugar bloom

The essential features of an adequate package, as shown in Fig. 5,

were incorporated by the manufacturers in most of the candy boxes used in these tests, and they gave adequate protection against moisture condensation and/or sugar bloom when candies were removed from storage at 35 or zero deg. F. Sugar bloom did not occur when moisture-proof packages were used, when moisture-absorbing tissue, cups, or trays were placed over or directly beneath the candy, or when individual pieces were

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[†] See Table I.

wrapped in moisture-proof materials.

The amount of sugar bloom on the assorted candies wrapped in the various materials after storage for six months is shown in Table III and in Fig. 3.

Almost identical data were obtained following two months' stor-These results show that sugar bloom was effectively controlled in boxes of candy overwrapped with aluminum foil, moisture-proof cellophane (which was used by the manufacturers), polyethylene or saran; but it did occur on candy in boxes overwrapped with glassine or with no overwrap. Boxes of candy exposed at 75 deg. F. and 85% r. h. with lids removed showed that fold-over inner liners of aluminum foil, polyethylene, saran or cellophane afforded much greater protection to the candy than similar inner liners of printed kraft paper, which were in turn more effective than inner liners of glassine. Foldover aluminum-foil box liners were about eight times as effective in preventing condensation on candies as laminated aluminum-foil pads cut to fit the box.

Condensation on boxes of candy removed from zero deg. F. was about 10 times that on boxes removed from 35 deg. F. These increased amounts of condensate required longer periods for evaporation, but the final effects were about the same. Although the same numbers of pieces were affected by moisture condensation from 35and zero-deg.-F. storage, the amount of sugar bloom on pieces removed from 35-deg.-F. storage was less. When condensation occurred, it was always worse on the pieces or bars near the corners or edges of the boxes. Pieces of candy protruding above the edges of the fluted cups had more condensation than those which did not.

One undesirable feature of the boxes containing assorted candies was the presence of extended bases and tops. These left the overwraps unsupported around the sides of the boxes, with the result that it was necessary to exercise extreme care in handling to prevent tearing of the wrapping material. Aluminum foil, waxed paper and glassine were especially susceptible to damage from this cause, as they did not have the "stretching" properties of the film materials.

Candy bars

Two of six manufacturers' packages adequately protected chocolate-covered candy bars from sugar bloom.

Four of the six types of chocolate-covered candy bars were damaged by moisture condensation when removed from zero-deg. and 35-deg. storage to 70 deg. F. All the bar candies were handled in cardboard cases containing 12 to

16 boxes of 24 bars each. The four types which were damaged -peanut-roll bars, caramel-nougat bars, cocoanut bars and marshmallow-peanut bars-had individual wraps of glassine which offered practically no protection. Mint-fondant bars with individual wraps of aluminum foil and solid chocolate bars wrapped in glassine with a sleeve of printed kraft paper were not damaged. The results of overwrapping the boxes or the individual bars with aluminum foil or with waxed paper were essentially the same as given above, i.e., foil gave complete protection and waxed paper gave partial protection against moisture damage, as shown in Table IV.

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TABLE II—TYPE OF COATINGS AND CENTERS, AND DESCRIPTION OF THE PACKAGES FOR CHOCOLATE-COVERED BARS OF CANDY WHEN RECEIVED

Cand	y bars		Package		
Coating	Centers	Wrapper	Liner	Tray	
Milk chocolate	Peanut-roll bar	Glassine	Glassine	Chocolate board	
Milk chocolate	Solid	Glassine	Glassine	None	
Milk chocolate	Caramel nougat	Glassine	sine None		
Dark chocolate	Mint fondant	Aluminum foil	None	Chocolate board	
Dark chocolate	Coconut cream	Glassine	Glassine	Chocolate board	
Milk chocolate Marshmallow and peanuts		Glassine	Glassine	Chocolate board	

TABLE IV—SUGAR BLOOM ON FIVE TYPES OF CHOCOLATE-COVERED CANDY BARS AFTER FOUR MONTHS' STORAGE AT DIFFERENT TEMPERATURES, WRAPPED IN WAXED PAPER AND UNWRAPPED, AND CONDITIONED AT 70° F. AND 90% RELATIVE HUMIDITY

Candy identity		Storage temperature	Boxes wrap waxed paper		Individual bars wrapped waxed paper by manufacture		
		deg. F.	bloom rating*	bloom rating*	bloom rating*	bloom rating*	
1.	Peanut roll bar	0	1.1	2.2	1.1	2.2	
		35	1.1	2.2	1.1	2.2	
		70	1.1	2.2	1.1	2.2	
2.	Solid chocolate		No conden	sation			
3.	Caramel nougat	0	-	5.6	_	5.6	
		35	_	6.7	_	5.6	
		70	-	-	_	_	
4.	Mint fondant		No condens	sation			
5.	Coconut cream	0	-	2.2	-	4.4	
	*	35	-	1.1	-	1.1	
		70	_	-		-	
6.	Milk chocolate						
	and peanuts	0	2.2	1.1	1.1	3.3	
		35	-	-	_	_	
		70	-	-	-	1.1	

^{*} Based on an intensity of 0 to a maximum of 10.

Moisture-tight packages retained fresh flavor in candy longest. Changes in flavor of stored candy may be due to oxidation, excessive exposure to air, hydrolysis, excessive moisture or volatilization. Adequate packaging (Figs. 5 and 6) retarded the entrance of oxygen and moisture, and retained volatile flavors.

Data in Table VI show that the differences in individual wraps for bars or overwraps for boxes were more significant as the temperature increased. The three materials listed in order of desirability were: foil, waxed paper and the manufacturer's wrap (glassine).

Storage changes

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Some candies showed storage differences not associated with packaging. Candies containing nuts in coatings or centers, as well as those with butterscotch, caramel, cream, fudge, nougat, toffee or spun centers were susceptible to fat bloom. Hard- and soft-fat bloom usually occurred together, although the two were distinguishable under a microscope. The amount of bloom varied somewhat with storage temperature, as shown in Fig. 3 and Table V, but was apparently influenced largely by the formulas used in making and applying the coatings. Assorted candies received from three manufacturers showed fat bloom after six months' storage at zero

TABLE V—THE AMOUNT OF SUR-FACE ON PIECES OF CHOCO-LATE-COVERED ASSORTED CAN-DIES COVERED BY FAT BLOOM IN FIVE PACKS AFTER STORAGE FOR SIX MONTHS AT THREE TEMPERATURES AND CONDI-TIONING FOR 24 HRS AT 70° F. AND 60% R. H.

	Storage temperatures					
Candy identity	70° F. surface covered %	35° F. surface covered %	0° F. surface covered %			
1	30.3	7.7	0.9			
2	9.3	3.4	1.5			
3	9.5	7.6	1.7			
4	1.7	0.1	0			
5	1.3	1.3	0			

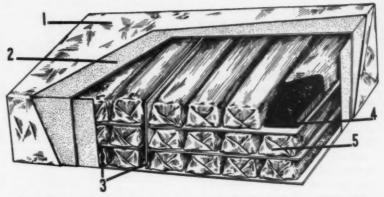


Figure VI. The essential features of a package for protection of candy bars from condensation and sugar bloom. (1) Overwrap, with sealed edges, which protects box and contents against gain or loss of moisture. (2) Chipboard box, telescope style, protects the candy from mechanical injury during handling. (3) Dividers which separate candy in section of box, and absorb moisture which might condense on the candy. (4) Individual bar of candy. (5) Individual wrapper for candy bars to protect against gain or loss of moisture; act as cushion to prevent mechanical injury and absorb moisture which might condensate on the candy bar.

deg. F., 35 deg. F. and 70 deg. F., while similar types of candy from two other manufacturers showed no bloom at zero deg. F. or 35 deg. F., with only a slight trace at 70 deg. F.

Spun candy chips, coated nuts, brittle, toffee and certain creams cracked in storage at zero deg. This cracking was ostensibly due to expansion in freezing and was not associated with length of stor-

TABLE VI—FLAVOR EVALUATIONS OF SIX TYPES OF CANDY BARS AS RECEIVED, AND AFTER BEING STORED FOUR MONTHS AT 0°, 35° AND 70° F., (A) WRAPPED IN ALUMINUM FOIL, (B) WRAPPED IN WAXED PAPER AND (C) UNWRAPPED

		Scores on flavor® after storage						
			Boxes overwi			lividual bars wr	apped	
Candy As			(bars in glassine)		(boxes not overwrapped)			
identity	received	Foil	Waxed paper	None	Foil	Waxed paper		
				-	At 0° F.			
1	9	9	8	7	9	8	7	
2	9	9	9	9	8	8	8	
3	9	9	8 .	7	9	8	8	
4	9	9	9	9	9†	9	9	
5	9	9	9	8	9	8	8	
6	6	6	6	6	6	6	6	
					At. 35° F.			
1	9	7	7	5	7	6	5	
2	9	7	7	7	7	7	7	
3	9	8	7	6	8	7	6	
4	9	9	9	9	9†	7	9	
5	9	8	7	7	8	7	7	
6	6	6	6	6	6	6	6	
					At 70° F.			
1	9	4	3	2	4	3	2	
2	9	6	6	6	7	6	5	
3	9	7	6	5	7	6	5	
4	9	6	6	5	6†	6	6	
5	9	6	6	6	6	5	5	
6	6	4	4	4	4	4	4	

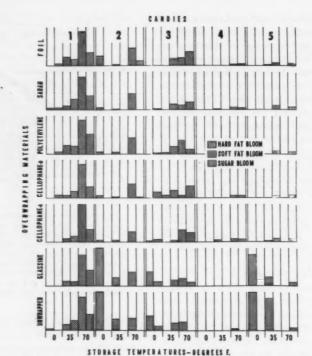
Based on a scale of 9 to 1, 4.5 being borderline of acceptability.
 Polyethylene was used because the manufacturer's wrap was foil.

age. In most cases the cracks were quite noticeable while the candy remained frozen, but were difficult to detect at room temperature, as most of them affected only the coating and closed with thawing. Spun candy chips were the only candies which shattered when frozen.

Summary

About 12,000 individual pieces of chocolate-covered assorted candies packed in 1-lb. boxes and 1,920 chocolate-coated bars packed 24 per box were received fresh from 11 manufacturers for storage tests. The candies were packed with various wrapping materials; stored at 70 deg. F., 35 deg. F. and zero deg. F., for one, two and six months; removed to 70 to 75 deg. F. at different relative humidities, and examined for sugar bloom and for hard- and soft-fat bloom.

Assorted candies in the manufacturers' packages were successfully removed from 35- and zero-deg, F. storage to 70 deg, F. and



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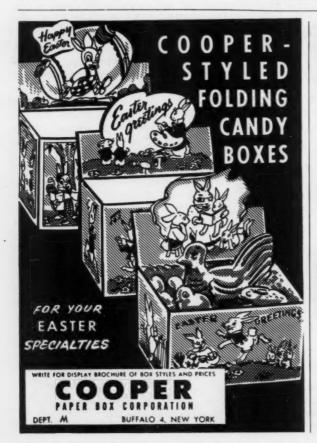
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Figure III. The average per cent of hard fat bloom, soft fat bloom, and sugar bloom, on chocolate-coated assorted candies (in one-pound boxes) from five manufacturers, when overwrapped with each of six materials and stored with an unwrapped check, at $0^{\circ}, 35^{\circ},$ and 70° F. for six months, then conditioned for six hours at 70° and 80 per cent relative humidity. The maximum amount of bloom shown is 25 per cent.





90% r. h. provided (a) the boxes or individual pieces were wrapped in moistureproof material (aluminum foil, saran, polyethylene, cellophane); (b) the boxes contained absorbent material (padding tissue, porous trays or liners); and (c) the packages remained unopened until the candy reached room temperature. Four out of six packages used by manufacturers of candy bars were inadequate for protecting refrigerated candies against possible sugar bloom.

When conditions were favorable for condensation of moisture and sugar blooming, these were worse on candies removed from storage at zero deg. F. than at 35 deg. F. Sugar bloom was about the same on assorted boxed candies and candy bars when stored at the same temperature.

Fat bloom occurred on assorted candies from three manufacturers when held at 70, 35 or zero deg. F. for six months. It was (a) greatly reduced, but not prevented by refrigeration; (b) increased with the time of storage; (c) not

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influenced directly by method of packaging and (d) greatly increased by centers high in fat.

Cracking of a few kinds of candies occurred when stored at zero deg. F., but only one spun candy shattered. Most of those that cracked had hard centers, and the cracks were barely noticeable at room temperature.

The quality of both assorted candies and candy bars was higher when packaged to protect them from gain or loss of moisture and when stored at zero deg. F.

Acknowledgments

Packaging materials used in these tests were furnished by the Dow Chemical Co., Midland, Mich.; E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.; Reynolds Metals Co., Louisville, Ky.; Rhinelander Paper Co., Rhinelander, Wis., and Sylvania Div., American Viscose Corp., Philadelphia. Candies were furnished by member companies of the National Confectioners Assn.

-The end

Through the cooperation of the Glassine & Greaseproof Manufacturers Association, the glassine referred to in this article was donated by the Rhinelander Paper Co., Rhinelander, Wis. R. W. Reed, Rhinelander Paper Co., has submitted the following supplementary statement: "It should be emphasized that the aim of this research project was a determination of the allowable MVT rate for control of bloom in refrigerated candies. there was no attempt to determine proper wrapping materials under the control conditions. For example, plain glassine was selected for the test as a poor MVT material although it is an excellent barrier against the fats and oils present in all candies and is widely used as a candy bar wrap under normal conditions. Glassine grades with excellent MVT properties such as wax, wax laminated and lacquercoated are available where moisture vapor protection is an essential requirement. Wax laminated glassines in substantial quantities have been used for years as a candy bar wrap under refrigerated conditions.'





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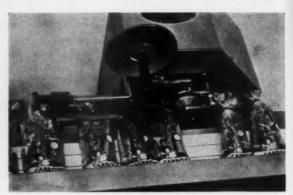
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What's New in Candy Packaging



A new, high volume bag closing system, has been developed. It feeds any number up to 120 per minute of pre-filled polyethylene or similar bags through a machine, closes and gathers the necks of the bags, applies sealing tape, then cuts the tape and releases the bag automatically. Although originally developed for the produce industry, this system has various applications in the candy-packaging field, since it will close and seal any type of film bag such as cellophane, polyethylene and saran.

For further information write: J. H. Platt & Sons, Los Angeles 11, Calif.

Organization of the Material Handling Function is the title of the fourth in a series of booklets published by the Material Handling Institute, Inc. The relation of material handling to the engineering function, the operating function and the training function is detailed in this publication.

These booklets are available at 50 cents each from the institute at 813 Clark Building, Pittsburgh 22, Pa.

Over 150 types of plastic boxes are available from stock molds. These cover a wide range of sizes in standard, round, square and rectangular boxes as well as many unusual shapes. Many pastel and deep tones are available as well as crystal clear.

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The temperatures of production and storage rooms at the Daggett Chocolate Company are checked and monitored at a central station in the boiler room. A Segmental Chart Dynalog Recorder logs 24 room temperatures in succession, making a complete plant check every 25 minutes. When a special reading is desired, the boiler room operator can interrupt the sequence, dial the room in question and flip a switch for instantaneous measurement. Located in the boiler room it is connected by ordinary electric wiring to sensitive temperature bulbs in critical plant areas.

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For further information write: The Foxboro Company, Foxboro, Mass.

An industry manual, THE FOLDING CARTON, has been published to give a thorough picture of the folding carton industry. Starting with the characteristics and functions of the folding carton, the booklet traces the history and development of the industry and its economic status. It continues on with folding carton design, the manufacture of paper board, actual carton manufacture, and ends with a discussion of packaging machinery and a bibliography. It is available to nonmembers of the association at \$1.25 per copy.

For your copy write: Folding Paper Box Assn. of America, 337 W. Madison St., Chicago 6, Illinois.





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New Candy Packages



The Mary Jane candy bar wrapper has been redesigned to give prominence to the Mary Jane character and to give the impression of large size. The diagonal placement of the Mary Jane name on a bright red panel increases the apparent size of the bar.

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A new candy bar has also been brought out containing the same candy, but packed in four individual sticks. The individual sticks are printed in glassine with the overwrap and printed cellophane. Both bars retail at 5ϕ .



Pecanettes by Andes Candies of Chicago is now being distributed to jobbers for drug store and chain store distribution. Previously the product was sold only in the company's seventy-nine candy stores and about a hundred other special outlets. The 9 oz. box has a gold foil laminated overwrap printed in red, white and chocolate. A small foil bag is also made printed in the same color scheme containing two pieces and to retail for 15¢.

New Candy Packages



A small package of mints are being made by the Thomas D. Richardson Company of Philadelphia for free distribution by railroads in their diners. The heat-sealed cellophane package contains three individual noncoated mints.

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The need for utmost protection from moisture and light as well as flavor guarding for Brach's Butter Mints resulted in this attractive laminated cellophane package produced by the Shellmar Betner Flexible Packaging Division of Continental Can Company. This new package has a small window display featuring the mints.

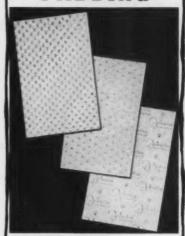


The air-tight plastic seal on these printed glass jars keeps this fine hard candy in perfect condition. The glass jars are printed in red and white and the ingredient label is printed on the reverse side of the jar and shows 5 oz. or more of candy.



A family of foil wraps have been designed for the Eddyleon Candy Company of Brooklyn, New York. The design on all the pieces is the same with just a change in copy and color to identify the different bars. The silver foil background contrasts with brown for the Pecans and Fruit Chocolate with royal blue for the Malted Milk Crunch and red on the Nuts and Fruit Chocolate.

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New Candy Packages





A well integrated packaging program for Halloween was developed by the Frank H. Fleer Company. The following special Halloween packages were designed. Twenty pieces in a cellophane bag, a 60 count carton and a 120 count carton, and boxes

holding 4 and 6 cartons. In addition five display posters and pennants were designed and packed in the display boxes for retail promotion. All of the packages and display material have similar design features, and together made a most successful Halloween season for the company.



A new egg crate design has been developed for the Easter line of Leaf Brands, Inc. Colors are "shocking magenta" and chocolate on white. Extensive market testing was done on this design to make certain that it would appeal to both adult shoppers and children. The crate contains 12 marshmallow eggs and is designed to retail for approximately 25¢.

for

CANDY PACKAGING

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New Candy Packages



A cellophane overwrap tray is being used for packaging 12 chocolate flavored marshmallow rabbits by Leaf Brands, Inc. Colors used are a special "Easter yellow" and "shocking magenta." The package size is 13" by 4" containing 10 marshmallow rabbits with a net weight of 5 oz. Designed by Barry Nolan.



This new design for Reymer & Brothers, Inc. has been chosen for display at the International Package Design Exhibition in New York, and at the American Management Association's Packaging Exposition in Chicago. This is just one of the new line of packages which were restyled recently.





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Candy leads a tough life in summer—unless it is properly protected. This protection is best provided with VISQUEEN film. No needed moisture escapes, no unwanted moisture penetrates the package. VISQUEEN is uniform, adapts to high-speed packaging. VISQUEEN won't split, tear, shatter or run. Bags made from VISQUEEN film open easily, don't break. VISQUEEN seals readily with heat, can be sewn,

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The MANUFACTURING CONFECTIONER'S

Candy Clinic

The Candy Clinic is conducted by one of the most experienced superintendents in the candy industry. Some samples represent a bona-fide purchase in the retail market. Other samples have been submitted by manufacturers desiring this impartial criticism of their candies, thus availing themselves of this valuable service to our subscribers. Any one of these samples may be yours. This series of frank criticisms on well-known branded candies. together with the practical "prescriptions" of our clinical expert, are exclusive features of The MANUFACTUR-ING CONFECTIONER.

Holiday Packages; Hard Candies

Code 2B5

Assorted Pops

75 Pieces, 1 lb. 1 oz., 49c

(Purchased in a chain grocery store, Oak Park, Ill.)

Appearance of Package: Good.

Size: Good.

Container: Polyethylene bag, white paper clip on top, printed in orange and blue. Pops have cellulose wrap-

Colors: Good. Gloss: Fair. Texture: Good. Flavors: Poor.

Assortment of Colors: Good.

Remarks: Suggest flavors be checked as they are not up to standard. Almost all the pieces tasted the same.

Code 2C5

Chocolate Santa Claus Boot

No weight stated, 25c (Purchased in a department store. Chicago, Ill.) Appearance of Boot: Good.

Size: Good.

Boot: Boot is wrapped in green tin

Coating: Light. Color: Good.

Texture: Good. Molding: Good. Taste: Fair.

Remarks: Suggest a tag or printing on the foil stating the manufacturer's ingredients, etc., to avoid trouble with the Food and Drug Dept.

> Code 2D5 Assorted Hard Candies

1 lb., 59c

(Purchased in a chain department store, Oak Park, Ill.)

Sold: In Bulk. Hard Candies: Colors: Good Gloss: Good. Texture: Good. Flavors: Good.

Assortment: See remarks.

Remarks: Well made hard candies. cheaply priced at 59c the pound. Suggest less peppermint sticks be used in the assortment. Sample purchased had about 50% peppermint

stick in it.

Code 2A5 Santa Claus Stocking 4 ozs., 39c

(Purchased in a department store, Chicago, Ill.)

Appearance of Stocking: Good.

Stocking: Red mesh stocking, white paper clip on top. Imprint of Santa Claus in red and white. Bag contained hard candy balls, cellulose wrapper, one tin puzzle, and small box of crayons.

Hard Candy Balls: Colors: Good. Stripes: Good. Texture: Good Flavor: Fair.

Remarks: Should be a good seller at 39c. One of the best Christmas novelties we have examined this

Code 2E5

Hard Candy Cluster Pops 2 ozs., 5c

(Purchased in a chain grocery store, Oak Park, Ill.)

Appearance of Pops: Good

Wrapper: 4 cellulose wrapped pops in a printed cellulose overwrap fastened with a rubber band.

Pops:

Colors: Good. Gloss: Fair. Texture: Good. Flavor: Fair.

Remarks: The best 5c cluster pops we have examined this year. Suggest flavors be improved.

Code 2F5

Hollow Santa Claus in Chocolate 1 oz., 10c

(Purchased in a chain department store, Oak Park, Ill.)

Appearance of Piece: Good.

Size: Good.

Container: Cellulose bag, white paper clip on top printed in blue.

Candy Clinic Schedule For the Year

JANUARY-Holiday Packages; Hard Candies FEBRUARY-Chewy Candies; Caramels; Brittles

MARCH-One-Pound Boxes Assorted Chocolates up to \$1.00

APRIL-\$1.00 and up Chocolates; Solid Chocolate Bars MAY-Easter Candies and Packages; Moulded Goods

JUNE-Marshmallows; Fudge

JULY-Gums; Jellies; Undipped Bars

AUGUST-Summer Candies and Packages SEPTEMBER-Bar Goods: 5c Numbers

OCTOBER-Salted Nuts: 10c-15c-25c Packages

NOVEMBER-Cordial Cherries: Panned Goods: 1c Pieces DECEMBER-Best Packages and Items of Each Type Considered During Year; Special Packages; New Packages

ER

Coating: Milk Chocolate.

Color: Good. Gloss: Good. Molding: Good.

Taste: Good for this priced confection.

Remarks: One of the best 10c molded pieces we have examined this year.

> Code 2G5 Hard Candy Pops 7 Pieces, 21/4 ozs., 10c

(Purchased in a chain department store, Oak Park, Ill.) Appearance of Package: Good. Container: Cellulose bag, paper seal

printed in silver and blue. Pops: Have cellulose wrappers.

Colors: Good. Gloss: Good. Texture: Good. Flavors: Fair.

Remarks: A well made pop but lacked good flavors.

Code 2H5 Assorted Hard Candy Drops 1 lb., 59c

(Purchased in a department store, River Forest, Ill.)

Sold: In Bulk.

Appearance of Drop: Good.

Wrapper: Colored cellulose wrappers, name etc., printed in white.

Drops: Colors: Good. **Qloss:** Good.

Texture: Good. Flavors: Fair.

Remarks: Flavors are not up to the standard used in the U.S.

Code 2J5 Assorted Hard Candy Drops 1/4 lb., 20c

(Purchased in a department store, Chicago Ill.)

Sold: In Bulk.

Appearance of Drop: Good.

Wrapper: Printed cellulose wrappers. Drops:

Colors: Good. Gloss: Fair. Texture: Good. Flavors: Fair.

Remarks: Highly priced for this type of hard candy. Flavors are not up to the standard used in the U. S.

Code 2K5 Assorted Hard Candy Pops 12 for 29c

(Purchased in a department store, River Forest, Ill.)

Appearance of Pops: Good. Wrappers: Plain cellulose wrappers.

Pops: Colors: Good.

Texture: Good. Gloss: Good. Flavors: Good.

Remarks: A good eating pop. Suggest name be printed on cellulose wrap-

> Code 2L5 Orange Pop 5c

(Purchased in a department store, River Forest, Ill.)

Appearance of Pop: Good. Container: Plain cellulose bag. Pop:

Size: Good. Color: Good. Texture: Good. Stripes: Good. Flavor: None.

Remarks: To avoid trouble with the Food and Drug Dept. we suggest that the name and ingredients be printed on the cellulose bag. Could not taste any flavor at all. Suggest flavor be checked.

> Code 2M5 Santa Claus Bar 11/8 ozs., 5c

(Purchased in a chain drug store, Oak Park, Ill.)

Appearance of Bar: Good.

Wrapper: Cellulose wrapper printed in blue and red. Imprint of Santa Claus in red, black and white.

Bar:

Coating: Fair. Center: Nougat. Color: Fair. Texture: Tough Taste: Fair.

Remarks: Coating had an "odd" taste. Poorly made center.

> Code 2N5 Lemon Hard Candy Pop 1c

(Purchased in a chain drug store, Oak Park, Ill.)

Appearance of Pop: Good. Wrapper: Printed paper wrapper.

Pop: Color: Good. Texture: Good.

Flavor: Very weak. Remarks: Should be a good 1c seller.

> Code 2P5 Cinnamon Balls 10 6/10 ozs., 25c

(Purchased in a chain grocery store, Oak Park, Ill.)

Appearance of Package: Fair. Container: Cellulose bag, paper clip on top printed in orange, blue and yellow. Balls are wrapped in cellulose.

Balls:

Color: Good. Gloss: Fair. Stripes: Good. Flavor: Good.

Remarks: A good eating hard candy ball. Suggest a bag of assorted balls as the consumer would prefer them to one flavor.

Code 2Q5 Assorted Hard Candy Balls 121/2 ozs., 29c

(Purchased in a chain grocery store, Oak Park, Ill.)

Appearance of Package: Fair.

Container: Cellulose bag, paper clip on top printed in red, yellow and white. Balls are wrapped in cellulose.

Balls: Colors: Good. Gloss: Fair. Flavors: Good. Assortment: Good.

Remarks: The best candy balls we have examined this year at this Very good flavors for this priced hard candy.

CONVEYORS

Corrigan bulk dry sugar handling and storage systems convey sugar from unloading point to storage and from storage to production.

Improve production facilities Lower operation costs

J. C. Corrigan Co., Inc. 41 Norwood St., Boston 22, Mass.



MODEL 30 -- 30 GAL MODEL 55--55 GAL (Covers available) ECONOMY EQUIPMENT

RUGGEDLY CONSTRUCTED FOR LIFE TIME WEAR. FULLY APPROVED BY HEALTH AUTHORITIES.

Manufactured by The Standard Casing Co., Inc. 121 Spring St., New York 12, N. Y

Walter H. Kansteiner Co.

RAW MATERIALS BROKERS 1737 Howard St. Chicago 26

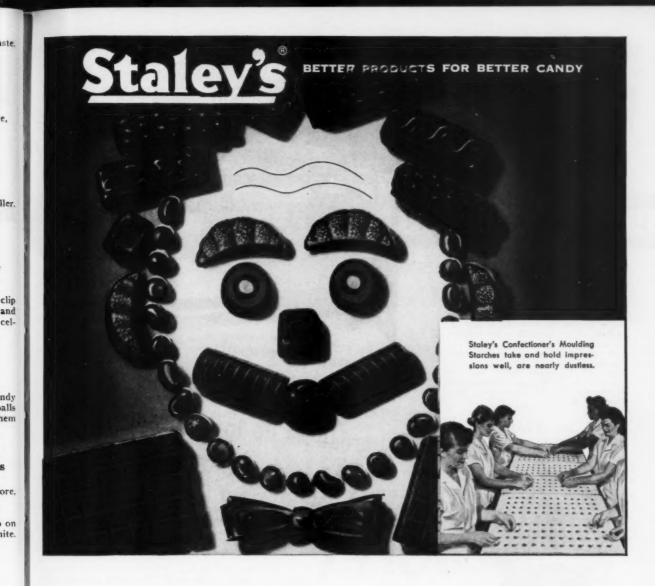
Chocolate Bachman Chocolate Mfg. Co.

Pecans & Black Walnuts R.E. Funsten Co.

> Oils The Blanton Co.

The confidence of the Purchaser in the integrity of the Seller our greatest asset

for Fe



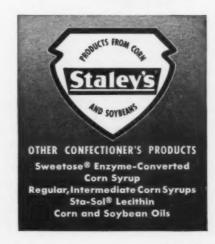
Staley's Starches Help Cook Up a Sweet Sales Story

Leading Confectioners Choose Staley's Moulding and Thin Boiling Starches for Better Candy at Lower Cost

Control...so that every batch is uniform. Quality...so that your candy is better textured, better looking... and faster selling. Staley's confectioner's starches are made to give you these and more sales-building, cost-cutting characteristics. A wide range of thin-boiling starches lets you boil batches freely without sticking, providing the texture you desire with just-right moisture content for longer shelf life. Staley's Pure Food Powdered Starch gives you a superior starch to replace losses from the boards, while the almost dust-less, clean and dry, Special Moulding Starch is capable of being printed as is, and makes top quality starch boards itself.

See your Staley representative soon for the complete story on quality confectioner's starches from Staley . . . or write us direct for more information.

A. E. Staley Manufacturing Company, Decatur, Illinois BRANCH OFFICES: ATLANTA - BOSTON - CHICAGO - CLEVELAND - KANSAS CITY - REW YORK - PHILADELPHIA - SAN FRANCISCO - ST. LOUIS



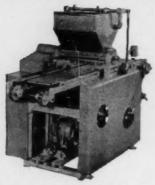
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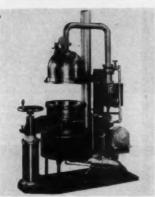
DEPOSITOR MEETS ALL FORMING NEEDS

Illustrated is the Racine Depositor featuring interchangeable shafts and plates for various spacing to handle



chocolate, creams, marshmallows, etc., with or without fruits or nuts, for depositing into molds, paper cups, or trays, plaques or belts. Important advantage of the machine is the absolute uniformity of the product as to size and weight. Now in four models, Jumbo 48", Senior 32", Junior 16", Baby 6". Complete details may be obtained from Racine Confectioners' Machinery Co., 15 Park Row, New York 38, N. Y.

NO STEAM? THIS GAS VACUUM COOKER DOES THE JOB



The new, redesigned and improved model H-1 Simplex Gas Vacuum Cooker is equipped with a new hydraulic lift and kettle tilting method to make working conditions easier and to take the hard work out of hard candy. It is well suited to plants that do not have high pressure steam available. Operating on gas it comes as one complete unit, including vacuum pump and motor, vacuum gauge, gas fired furnace blower and motor.

With a cooker capacity of from 25 to 120 pounds per batch, the machine is designed for efficient, economical production of fruit drops, stick candies, lollypops and other types of hard candies as well as quicker cooking of fondant syrup.

fondant syrup.

Additional information is available from Vacuum Candy Machinery Co.,
15 Park Row, New York 38, N. Y.





Nifty Nut House



A. F. MUCKENTHALER of Topeka, Kansas, has operated the Nifty Nut House in the present location since 1938, opening a year after his brother set up a shop under the same name in Wichita. Nifty business is centered around nuts which account for about 60% of sales, with their own candies making up the balance. All nuts are processed right in the Nifty shops, using a Griswold deep fat electric fryer with a 7 or 8 pound basket.

Most of the candies are manufactured in the

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The modern store front is well located between a drug store on the corner and a specialty shop. Though the store has recently started to do some newspaper advertising, the main attraction has been to the street traffic in this good location.

Wichita shop, such items as chocolate creams, chocolate covered nuts, fudge, and pecan rolls. Pralines, mints and caramel corn are made in the Topeka shop. Hard candy is commercial.

Mr. Muckenthaler says he didn't know much about the business when he first opened up, but a bit of nerve, some good neighbors, and the war boom all contributed toward his success at the start. Covered nuts and fudge were the first candy items in his line. The bulk of the business, of course, was in nuts.

Most of the nuts are obtained through jobbers in Kansas City. Some are purchased direct from importers.

Quality rather than price is the by-word at Nifty. In this small manufacturing retailer operation, it is found that catering to local tastes can be done profitably if one concentrates on quality merchandise instead of attempting to meet competition pricewise.

Working under this policy, two full time girls have been retained for about three years. Permanent, satisfied help is part of the overall quality program because they can help pass along this attitude to the customer. Extra girls are used part time on holiday rush periods.

Since the war, it seems that people of Topeka are considerably more price conscious, however, than are the people of Wichita. This fact is attributed to the metropolitan nature of Wichita which is considerably larger and has a huge population of defense plant workers, particularly in aircraft.

Although Topeka has its share of heavy industry, the town is essentially a quiet capital city, suburban in character, apparently interested more in political affairs than big business.

In this situation, it has been found that merchan-

dise definitely will not carry the same mark up it will in another town like Wichita. The observation is significant in that the shops are duplicate operations, both selling the same merchandise items.

Mr. Muckenthaler has given some thought to developing a brand name for his packaged candies, but so far, only "house identification" is shown as a signature on standard white boxes which can be used for nuts or candy. Stock boxes in fancy holiday designs, particularly for Valentine's Day, carry a Nifty Nut House metallic seal which is applied at the shop.

In boxed goods, while nut pieces are not packed in preference to other types of candies, Mr. Muckenthaler takes pride in his private pack which "contains more nut pieces than is found in competitive packs."

Standard counter display space seems to be about evenly divided between nuts and candy, but the nut department is located up front. A few weeks ago greeting card racks were also installed to make use of a long, blank wall which could serve no other purpose. The card racks have attracted considerable attention from the trade, and to date, indicate they will contribute nicely to the overall business as a sideline which offers more profit than trouble.

Vogue Dolls have become quite popular as a Nifty Nut House sideline, too. While there is competition on this item from other shops in town, there has been some increase in total business attributed to the sale of dolls and their accessories at prices ranging from \$3.50 upward.

Window display has been the principal means for attracting attention to the shop until recently. Streamers are also used in the store during promotion of seasonal or holiday feature sales. Mr. Muckenthaler will select a nut item and a candy item he wants to move, and will feature these during such sales. Customarily, he will mark down the price about 15% below regular retail. Occasionally, he will go lower, depending upon the event and the featured item.



The cash register separates the nut counter up front from the candy counter in the back of the shop. The clean and neat arrangement of the shop provides a fine setting for the high quality confections on display.

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Now! the BEST MOGUL is the LEAST EXPENSIVE MOGUL



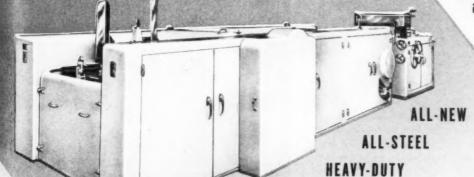
1 Mogul sold to New York concern, now operating 3 Moguls.

1 Mogul sold to Pennsylvania concern, now operating 3 Moguls.

1 Mogul sold to Pennsylvania concern. This company is starting the right way to produce high production, high quality starch deposited goods.

For reference, the names of these firms will be given on request.

Ask them why.



· Proven dependability.

 Mogul is constructed to withstand the rugged operation and hard usage of day in day out performance.

National MOGUL MODEL M-100

• Precision built to the highest engineering standards.

 Operates at higher speeds, smoothly and with better quality moulding than any other machine on the market today!

 New Harmonic Motion Tray Travel device insures smooth transfer of moulding boards from Printer to Depositor. Assures perfect moulding and less scrap.

The newly constructed "Thoroclean" and Quick Removable
 Sieve is smoother operating and cleans centers clean.

Why!

minute on cream
goods with 5 deposits
of a double pump bar per
tray—making 85 deposits per
minute at the Depositor, running
smooth as silk, with absolutely NO
vibration or jerking! This is why
the discerning and successful
manufacturer installs M-100
Moguls and KEEPS BUYING
THEM.

NOW IS THE TIME TO BUY!

deliveries.
Apply liberal tra

Immediate

Apply liberal tradein allowance to your new M-100 Mogul purchase.

Old removal and new installation made over any week-end period. No production time loss.

Time payments can be arranged if desired under our "pay as you save" purchase plan.

Act Now!

Write TODAY For Complete Details

NATIONAL EQUIPMENT CORP.

153-157 CROSBY STREET, NEW YORK 12, N. Y.



This attractive candy display faces the customer as he enters the shop. The main display is of bulk goods. Stock boxes are used, with the Nifty Nut House label. Fancy set-up boxes are used during special seasons, and are identified with a foil label.

In the past, very small ads have been run in newspapers for anniversary sales. Recently, Mr. Muckenthaler has contracted for one-column by one inch space in morning and evening (standard combination) papers to be run twice weekly. After the first few ads in this series were run, a small increase in business was noticed. Other ads which have appeared since the first one ran on October 11 have been varied to include all merchandise including caramel corn, imprint service on greeting cards, overseas packaging and hot roasted nuts.

SEAS BOXES SEALED IN TINS IIFTY NUT HOUSE 603 Kansas Ave.

Mr. Muckenthaler's intention was to run these ads over a long period of time (first trial run covering a six month minimum period) to build up recognition value. Though he was not expecting immediate results, a number of people mentioned the ads when they came into the shop.

For holiday promotion, larger ads have been used to suggest nut meats for Christmas baking, or Nifty Nut House boxed candies for gifts.

While the business is relatively small, it has all the appearances of a successful venture well managed. Mr. Muckenthaler is rather modest in discussing his store, and both he and his wife radiate a spontaneous pride in their accomplishment when they greet a customer or a stranger.

It takes many kinds of retailers to bring candy to over 160,000,000 Americans. This type of combined candy and roasted nuts retailer seems to be well adapted to small cities. In fact, many other candy retailers might well investigate the possibility of adding roasted nuts to their exclusively candy operations, as those two products seem to attract the same type of trade.

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This "Merry-Go-Round" is the feature in the Children's Room at the Coach House. The outside circular shelf with the poles and top is stationary, and carries the "lollypop" trees. The center round shelf revolves and carries toys and novelties. This display is in The Coach House, Framington, Mass. A complete story on this manufacturing retailer appeared in our January issue.

"BUSH" Manufacturing Chemists

Since 1851 we have specialized in the distillation of Essential Oils and the manufacture of Flavoring Materials and Food Colors, and over this long period have established and maintained a world-wide reputation for Quality.

SOME OF OUR SPECIALTIES

IMITATION PINEAPPLE FLAVOR 4253

One of our outstanding specialties, imparting the character of the true fruit, a real fresh pineapple

IMITATION COCONUT FLAVOR 4127

Accurately reproduces real coconut flavor. For all types of candy; a necessary ingredient wherever coconut is used; particularly valuable for reinforcing the flavor of shredded coconut.

IMITATION JAMAICA BANANA FLAVOR

This preparation gives the flavor and aroma of the ripe red Banana to a remarkable degree.

Write for Samples and Full Directions -

19 West 44th St.

Chicago, Ill.

New York 36, N. Y. National City, Calif.

for 1

LATINI'S LATEST PROFIT MAKER

Latini Die Pop Machine With Continuous Wrapping Attachment

You can now make and wrap pops in a continuous operation—and they're not just pops—they're LATINI DIE POPS.

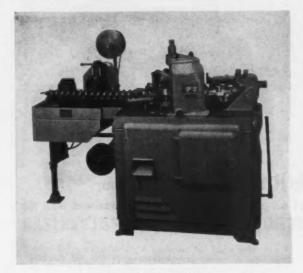
200 wrapped Die Pops per minute require only one operator: the spinner.

The wrapped pops go right through for cooling, then packing.

There is no handling, chipping, breaking, etc., which all means dollars and cents to you.

In addition, the sandwich wrap saves cellophane—uses about 50% of other type wraps.

It All Adds Up to Profits with a Quality Item.



Latini Die Pop Machine With Continuous Wrapping Attachment



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Hohberger Continuous Hard Candy Cutter

Waffles, pillows, chips, or straws. Up to 150 feet per minute. Perfect sealing on filled pieces.



The Latini Sander

Guaranteed to properly sand the full output of a mogul! Enlarged steaming chamber. Non-corrosive metals wherever steam and sugar meet.



Berks Mixer

The Berks mixer incorporates color and flavor and kneads the candy the same as by hand. No d'scoloration. Over 50 users with from one to fifteen units—over 160 in operation.



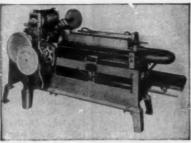
Hohberger Cream Machine

Up to 2,000 pounds per hour of straight sugar fondant with proper doctoring or any syrup.



Hontz Cluster Machine

Completely automatic. Does not tie up enrober. Handles any free-flowing nut. Uniform clusters at any rate from 850 to 1,500 lbs. per hour.



Hohberger Continuous Ball Machine

Up to 1,200 lbs. per hour. Forms filled or plain balls, unusual shapes and sunbeam starlights.



Economy Belturns

Economy Belturns conserve space through efficient arrangement of cooling conveyors and packing tables. Bunching and crowding eliminated. Available in all standard widths:

12" to 48" 90°, 180° and special angles.

NEW YORK 36, N. Y.

John Sheffman, Inc.

152 WEST 42nd STREET

NER



of 6X powdered sugar is easily produced with the SCHUTZ-O'NEILL Guperfine PULVERIZER

If you have need for constant high production of powdered sugar, by all means investigate the 28" O'Neill Superfine Pulverizer. It easily turns out 6000 to 6500 lbs. per heur of 6X powdered sugar with uniform fineness, using a 75 H.P. motor. Carry granulated sugar in stock,—make fresh powdered sugar as needed.

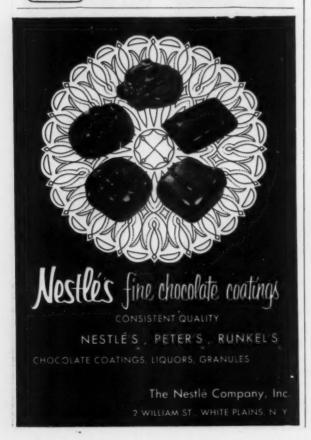
EXTRA EQUIPMENT: Automatic Starch Feeder will thoroughly mix any desired percentage of starch with powdered sugar.

Write for information, state capacity desired.



SCHUTZ-O'NEILL CO.

329 Portland Ave., Minneapolis 15, Minn.



CALENDA

February 10-Metropolitan Candy Brokers Association monthly meeting at the Hotel Empire, New York, at 8:00 P.M.

February 10-New York Section of the American Association of Candy Technologists monthly meeting at Busto's Restaurant, 11 Stone Street, Manhattan, at 6:30 P.M.

February 12-Carolina Confectionery Salesmen's Club monthly meeting at Kuester's, Charlotte, N. C.

February 14-18-National Canners Association Convention, Conrad Hilton Hotel, Chicago, Ill.

February 15-Candy Executive's Club monthly meeting at the St. George Hotel, Brooklyn, New York, at 6:00 P.M.

February 15-Chicago Section of the American Association of Candy Technologists monthly meeting at the Furniture Mart at 6:30 P.M. Speaker: Mr. Alex J. Fulton on "Wage Systems-Simplification Programs and Establishment of Standards.

February 17-New York Candy Club monthly meeting at the Park Sheraton Hotel, at 8:00 P.M.

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February 19-Great Plains Candy Club monthly meeting at the Castle Hotel, Omaha, Nebr.

February 24-Tidewater Wholesale Candy Club monthly meeting at Lewis Manor, 3800 Granby, Norfolk, Va. February 24-25-Western Candy Conference, Ambassador

Hotel, Wilshire Blvd., Los Angeles, Calif.

February 25-Badger Candy Club of Milwaukee monthly meeting at the Astor Hotel, 924 E. Juneau, Milwaukee, Wis., at 8:00 P.M.

February 26-Dallas Candy Club monthly meeting at Semos Restaurant, 505 Ft. Worth Ave., Dallas, Texas, at 12:30 P.M. February 26-Gopher Candy Club monthly meeting at the Covered Wagon, Minneapolis, Minn., at 12:30 P.M.

March 4-St. Louis Candy Sales Assoc. monthly meeting at the Hotel Kingsway, Kingshighway and West Pine Blvd., St. Louis, Mo.

March 7-Confectionery Salesmen's Club of Baltimore monthly meeting at Gannons, 3150 Fred'k Road, at 12:30 P.M.

March 8-Boston Section of the American Association of Candy Technologists monthly meeting at the Hotel Continental, 29 Garden Street, Cambridge, Mass., at 6:30 P.M.

April 16-17-Semi-Annual meeting Packaging Machinery Manufacturers Institute, Palmer House, Chicago, Ill.

April 18-21-American Management Association National Packaging Exposition at International Amphitheatre, Chi-

April 28-29-Production Conference of The Pennsylvania Manufacturing Confectioners Association, Franklyn and Marshall College, Lancaster, Pa.

May 1-4-Super Market Institute 18th Annual Convention, Cleveland Public Auditorium, Cleveland, Ohio.

May 16-20-Materials Handling Conference at the International Amphitreatre, Chicago, Ill.

May 22-25-Annual Convention of the Flavoring Extract Manufacturers' Association at the Edgewater Beach Hotel, Atlantic City, N. J.

June 5-8-Associated Retail Confectioners of the United States, Drake Hotel, Chicago, Ill.

June 5-10-National Confectioners' Association, Conrad Hilton, Chicago, Ill.

June 14-19-Boston Confectionery Salesmen's Club, Inc., convention at Wentworth By The Sea, Portsmouth, N. H. July 13-Southern Salesmen's Candy Club, Hotel Roanoke,

Roanoke, Va.
July 14-15-Southern Wholesale Confectioners Association,

Hotel Roanoke, Roanoke, Va. July 16-19-Metropolitan Candy Brokers' Association annual

exposition, Hotel Commodore, New York, N. Y. July 31-August 4-National Candy Wholesalers Association, Sherman Hotel, Chicago, Ill.

September 15-18-Annual Meeting Packaging Machinery Manufacturers Institute, The Homestead, Hot Springs, Va. September 18-21—Philadelphia Candy Show, Ben Franklin

Hotel, Philadelphia, Pa.

September 29-30 and October 1-Indiana Tobacco & Candy Distributors Association Convention-Meeting at the Claypool Hotel, Indianapolis, Ind.

Confectioner's Briefs



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TONER

Harold E. Bush has been appointed to a newly-created post of assistant to the president and sales manager of Reymer & Brothers, Inc. In his new position, Mr. Bush will supervise sales of Reymer's candy products and "Blennd," a non-carbonated

lemon-orange beverage to the drug, confectionery and food outlets. Prior to joining Reymer's, Mr. Bush was district sales manager with Anheuser-Busch, Inc. in charge of the Philadelphia sales office.

Mr. Bradley S. Dawes has been named sales manager of the Cotton Candy Corp. of Tipton, Indiana.

Edward C. Johnston, president of the Robert A. Johnston Co. of Milwaukee was killed January 1st in an automobile accident. Mr. Johnston was the fourth president of this 100 year old baking and confectionery firm.

Amurol Products Company of Chicago, Illinois, known for their sugarless chewing gum and tooth powder, are now marketing a chocolate bar called "Drake's Sugarless." These bars are labeled "Milktype Chocolate Flavored Bar," "with non-fat milk solids." These bars come in at least two varieties, one mint flavored and the other with roasted almonds. They are ¾ oz. and retail for 15¢.

The ingredient panel reads "Chocolate liquor, cocoa, hydrogenated vegetable oils, precooked soybean meal, non-fat milk solids, lecithin, vanillin (artificial flavor), sorbitol, and 5% sucaryl calcium (non-nutritive artificial sweetener to be used by persons who must restrict their intake of ordinary sweets). Sorbitol is utilized as a carbohydrate but more slowly."

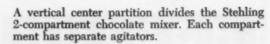
"Approx. Analysis Per Bar: Protein 2 gms., Fat. 9 gms., Carbohydrate 9.3 gms. (including 6.75 gms. Sorbitol) 111 Calories per bar.

Peter C. Zimmer, merchandising manager of candy and confectionery division of Robert A. Johnston Company, has been named general advertising manager to head a new department which coordinates advertising for the company's biscuits, candies and chocolate products divisions.

William Neilson Ltd. has announced the following appointments. Sydney J. Smith, president and general manager, T. W. Wilson, executive vice-president and secretary-treasurer, and Harley N. Neilson, vice-president.

Dark and Light Chocolate in One Mixer

Only Stehling offers you a 2-COMPARTMENT MIXER



Users work dark chocolate in one compartment, light chocolate in the other; or melt and mix in one while drawing off the other.

One mixer does the work of two, with superior mixing action that no other mixer gives you. In capacities from 3000 lbs. to 15,000 lbs. for each compartment.

Write for details today.

CHAS H. STEHLING CO.

1303 N. FOURTH STREET · MILWAUKEE 12, WISC.

Factory Representative: R. S. and G. B. Hislop 1517 Grange Ave., Racine, Wisc.

Dark an in One
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2-C

Schling
No Besser
1303

Speed Makes The Difference!

450 CARAMELS CUT and WRAPPED EVERY MINUTE IDEAL HI-SPEED

WRAPPING
WRAPPING
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Speed that's always dependable—
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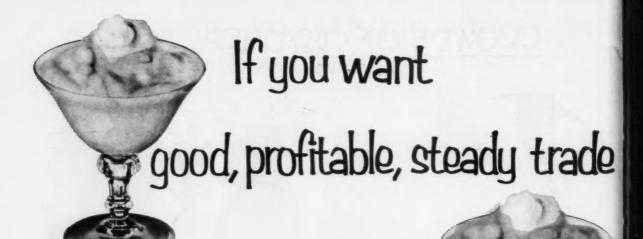
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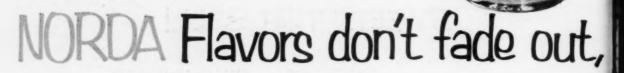
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